

December, 2016

Justification for Maintaining a General Variance for Meeting Numeric Nutrient Criteria in Montana.

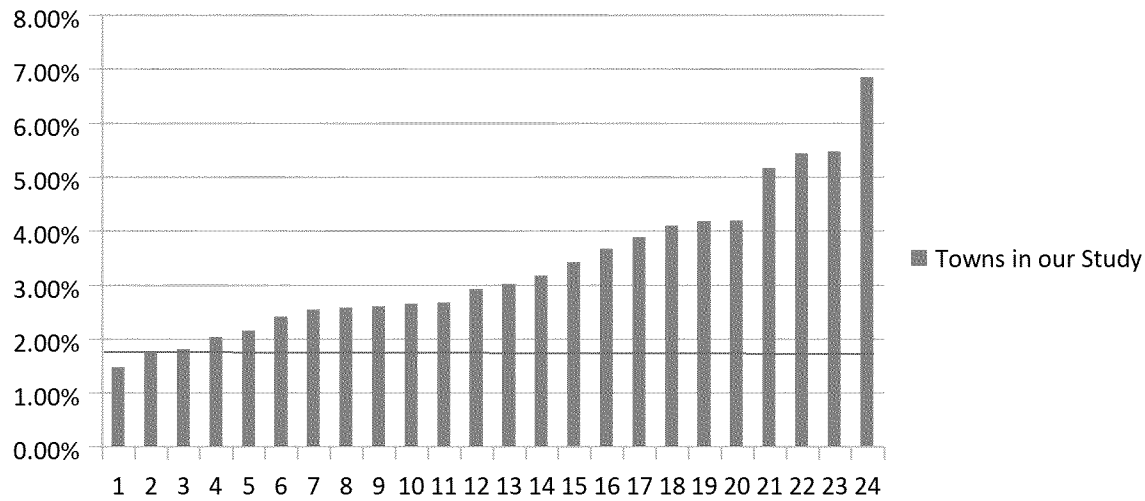
Montana DEQ reviewed the joint DEQ-EPA study done in 2011, justifying a General Variance for Meeting Nutrient Criteria in Montana. This study was entitled “Demonstration of Substantial and Widespread Economic Impacts to Montana That Would Result if Base Numeric Nutrient Standards had to be Met in 2011/2012”. The 2011 study demonstrated that almost all Montana towns would experience significant economic distress trying to meet the nutrient standard. Five years later, DEQ was asked to demonstrate that this General Variance is still justified, given current conditions.

The Montana DEQ did this by obtaining the latest available data on Median Household Income (MHI) for the sample of towns included in the 2011 study. The latest data was also included on number of households in each town. These data were from the American Community Survey 2011-2015. Other data in the 2011 study, mainly the cost data for reaching numeric nutrient standards by reverse osmosis, were assumed to remain the same. Also, since technology has not significantly advanced in the past five with nutrient treatment, reverse osmosis is still considered the technology needed to meeting nutrient criteria. We did not redo the ‘secondary score’ numbers, because if towns must pay above 2% MHI, then they qualify as a ‘significant impact’ regardless of secondary score, and move on to the Widespread test regardless of the secondary score.

Using the new data for MHI and number of households in the towns in our study, the results clearly show that reaching nutrient standards would still be too expensive for almost all towns in Montana as of 2016. Most towns in 2016 would be pushed well over the 2.0% MHI level using reverse osmosis, as they were in 2011. A table and two charts are given below showing this result. They compare MHI numbers for meeting nutrient criteria using both 2011 and 2015 numbers. Although some of the MHI percentage numbers for towns to meet criteria are lower than in 2011, all but one community remain over 2.0% MHI (as compared to the 2011 numbers) in order to meet criteria. Havre is the only community that falls below the 2.0% threshold in 2015 versus 2011, and they may be able to meet criteria right now with their current system.

Community	Median Household Income (2010) MHI.	Median Household Income (2015)	Estimated Number of Households (Population / 2.5) based on 2000 Census	Estimated Number of Households American Community Survey 2011-2015	Current Average Annual Household Wastewater Bill	Design Flow (MGD)	Actual Flow (MGD)	Current wastewater MHI	2011 Percent MHI needed to get to RO/Base Numeric Nutrient Criteria (including current fees)	2011 Increase over current Wastewater Bill to Reach RO	2015 Percent MHI needed to get to RO/Base Numeric Nutrient Criteria (including current fees)	2015 Increase over current Wastewater Bill to Reach RO	Difference MHI needed for RO between 2011 and 2015 numbers
Kalispell	\$39,953.00	\$41,097.00	7,705	8,608	\$216.00	5.4	3.10	0.54%	2.58%	186%	2.34%	166%	-0.24%
Bozeman	\$41,661.00	\$45,729.00	14,614	16,573	\$372.00	13.8	5.80	0.89%	2.92%	228%	2.45%	201%	-0.48%
Helena	\$47,152.00	\$49,852.00	12,337	13,095	\$265.44	5.4	3.00	0.56%	1.74%	196%	1.59%	185%	-0.16%
Butte	\$37,335.00	\$37,686.00	14,041	14,798	\$360.00	8.5	4.00	0.96%	2.15%	123%	2.07%	117%	-0.08%
Billings	\$45,004.00	\$51,012.00	41,841	44,092	\$218.28	26	26	0.49%	2.41%	398%	2.04%	377%	-0.37%
Missoula	\$34,319.00	\$41,421.00	27,553	29,860	\$152.14	12	9	0.44%	1.47%	232%	1.15%	214%	-0.32%
Great Falls	\$40,718.00	\$42,896.00	23,998	25,194	\$187.20	26	26	0.46%	4.18%	808%	3.80%	770%	-0.38%
Livingston	\$35,689.00	\$40,619.00	3,188	3,215	\$600.00	5	2	1.68%	6.85%	307%	5.98%	305%	-0.87%
Miles City	\$37,554.00	\$46,935.00	3,518	3,479	\$236.10	3.7	2	0.63%	4.09%	551%	3.30%	557%	-0.79%
Hamilton	\$25,161.00	\$27,907.00	2,092	2,371	\$276.00	1.98	0.68	1.10%	5.44%	396%	4.45%	349%	-1.00%
Lewistown	\$31,729.00	\$35,990.00	2,727	2,681	\$387.60	2.5	1.5	1.22%	3.43%	180%	3.05%	184%	-0.37%
Havre	\$43,577.00	\$45,146.00	3,709	4,048	\$240.00	1.8	1	0.55%	2.04%	270%	1.85%	247%	-0.19%
Columbia Falls	\$38,750.00	\$47,352.00	1,621	1,949	\$532.20	0.766	0.37	1.37%	3.02%	120%	2.25%	100%	-0.78%
Manhattan	\$50,729.00	\$52,135.00	523	547	\$362.40	0.6	0.4	0.71%	2.60%	264%	2.45%	253%	-0.15%
Lolo	\$46,442.00	\$60,276.00	1,060	1,487	\$363.00	0.34	0.38	0.78%	1.81%	131%	1.17%	94%	-0.64%
Stevensville	\$33,776.00	\$32,337.00	795	818	\$535.08	0.3	0.29	1.58%	3.17%	100%	3.27%	97%	0.09%
Philipsburg	\$31,375.00	\$41,103.00	399	327	\$200.00	0.2	0.2	0.64%	4.19%	557%	3.79%	680%	-0.39%
Cut Bank	\$44,833.00	\$34,833.00	1,290	1,056	\$138.48	0.643	0.643	0.31%	2.68%	767%	4.12%	937%	1.44%
Deer Lodge	\$40,320.00	\$37,934.00	1,522	1,323	\$409.56	3.3		1.02%	3.89%	283%	4.59%	325%	0.70%
Glendive	\$42,821.00	\$41,250.00	1,883	2224	\$213.96	1.3	N/A	0.50%	3.67%	635%	3.31%	537%	-0.36%
Redlodge	\$50,123.00	\$42,500.00	1,055	1038	\$305.28	1.2	0.65	0.61%	5.16%	747%	6.17%	759%	1.01%
Big Fork	\$44,398.00	\$53,495.00	1,708	1837	\$580.36	0.5		1.31%	2.65%	103%	2.12%	95%	-0.53%
Highwood	\$62,614.00	\$45,250.00	53	83	\$600.00	0.026	0.015	0.96%	2.54%	165%	2.73%	106%	0.18%
Circle	\$29,000.00	\$36,250.00	234	289	\$259.56	0.16	0.065	0.90%	5.47%	511%	3.68%	414%	-1.79%

Total MHI Percent Needed to Meet RO-2011



Total MHI Percent Needed to Meet RO--2015

